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ABSTRACT

The paper reports on a 1-year study of 44 gifted adolescent females who chose to complete high school and college in 5 years. The students in the special residential program at Mary Baldwin College in Virginia received personality and family adjustment measures at the beginning of the year. Results were compared to the students' later socioemotional adjustment in four areas: freedom from mental health problems, behavioral compliance with rules, positive peer relations, and self-reported student satisfaction. The study found that about half of the students suffered from depression at some time during the year. Forty-eight percent of the students left the program during the year or decided not to return the following year. Students who adjusted best to acceleration came from families that valued personal independence and an active-recreational orientation, and tended to have favorable mother-adolescent communication. Students with few behavior problems also tended to have positive self-concepts concerning both scholastic competence and physical appearance. Students with good peer relationships tended to have high social self-confidence and came from families having established rules and structures. Student satisfaction with the program was best predicted by high interpersonal interests, lower social self-confidence, and a family life with established rules and structure. (DB)

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AEL • Minigrant • Report • Series

AEL Minigrant Report No. 11: ADJUSTMENT OF ACADEMICALLY TALENTED FEMALES IN A SECONDARY SCHOOL ACCELERATION PROGRAM

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AUTHOR NOTES

We express our gratitude to the students and families who participated in this study. We appreciate the hard work and diligent effort of those who assisted us in this project, especially Mary Manke.

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ABSTRACT

Academic acceleration, a strategy for meeting the educational needs of academically talented students, stirs much controversy among educators and parents. Some past research has shown that acceleration can result in high achievement, but some case studies show social and emotional development problems.

This report reveals the results of a longitudinal study conducted by University of Virginia and Mary Baldwin College education researchers to find out which students are most likely to benefit from acceleration. Over the period of a year, researchers studied 44 adolescent females who chose to complete high school and college in five years. The students attend a women's college with a residential program that provides support and encouragement to academically talented females. At the beginning of the year, a series of personality and family adjustment measures were administered. During the year, these measures were compared to the students' socioemotional adjustment, which was assessed in four areas:

- o freedom from mental health problems,
- o behavioral compliance with rules,
- o positive peer relations, and
- o self-reported student satisfaction.

The study found that students differ in their ability to adjust to the program, that socioemotional adjustment is correlated with a series of personality and family variables, and that socioemotional adjustment can be predicted from prior measures of personality and family characteristics.

INTRODUCTION

Academic acceleration that permits early completion of high school and college is a controversial educational strategy. Advocates stress the potential for rapid achievement and early pursuit of advanced study and career interests by academically talented students. The success of acceleration in facilitating high achievement, often at surprisingly rapid rates, is well-documented (Benbow & Stanley, 1983; Brody & Benbow, 1987; Stanley, 1979) and supported by a meta-analysis of the existing literature (Kulik & Kulik, 1984).

Critics, however, contend that acceleration may have an adverse effect on social and emotional development (see review by Pollins, 1973). Students may experience excessively strong internal and/or external expectations for high achievement. Accelerated students may lack adequate opportunity for age-appropriate peer interaction that is associated with normal adolescent development. Finally, an early college entrance residential program separates the student from the family and parental support at a relatively early age.

Concerns about the adverse effects of accleration are longstanding and widespread among both educators and the general public (Montour, 1977; Pollins, 1977; Terman & Oden, 1947). Individual case reports of accelerated students who develop serious emotional problems are widely publicized (Montour, 1977). Largely because of these concerns, acceleration has not been a popular or widely employed educational strategy, despite the evidence of its academic benefits (Daurio, 1979; Kulik & Kulik, 1984).

Empirical studies have found no differences between accelerants and nonaccelerants on a variety of adjustment measures (Brody & Benbow, 1987; Janos et al., 1988; Pollins, 1983; Robinson & Janos, 1986). While negative findings are reassuring, they are far from conclusive. There are at least three methodological issues to consider.

First, the failure to find significant results does not permit an unequivocal conclusion that problems do not exist. From a purely statistical point of view, a negative result is inconclusive. In addition, studies typically employ standard instruments developed to assess serious psychopathology (such as the MMPI), which may not address the kinds of problems and difficulties experienced by highly able youngsters in a college envrionment. Attention to specific behavior and social adjustment of accelerated students is needed.

Second, most studies are retrospective. Such studies cannot adequately determine whether students suffered from adjustment problems during their acceleration years or how they might have changed over the course of their program. Moreover, studies that assess only successful graduates of acceleration programs may be biased by omitting students who dropped out of the program before completion. Dropouts are likely to be the students who experienced the most serious adjustment problems.

Third, studies that compare accelerants to nonaccelerants provide no information about differences <u>among</u> accelerants. It is important to identify which students fare best in an accelerated program and, if possible, to identify students for whom acceleration is not advisable.

THE PRESENT STUDY

The present longitudinal study examined students' adjustment to a residential program designed to permit adolescent girls to complete high school and college in five years instead of eight. Residential programs merit special attention because they involve such a dramatic change in the adolescent's access to family guidance and support. Female students deserve study because most previous work has concentrated on male students. Moreover, female accelerants may be at-risk for adjustment problems because their high achievement ambitions run counter to prevailing social values and expectations that discourage or limit achievement by adolescent girls (Callahan, 1979; Reis & Callahan, 1989).

The students in this program were studied over a one-year period. A series of personality and family adjustment measures administered at the beginning of the academic year were correlated with the students' socio-emotional adjustment to the program over the course of the year. Socio-emotional adjustment to the acceleration program was operationally defined and assessed in four main areas: freedom from mental health problems that triggered staff intervention (e.g., counseling or referral to a mental health professional), behavioral compliance with program rules and expectations, positive peer relations, and self-reported student satisfaction with the program.

Two questions summarize the proposed project: What kinds of adjustment problems are experienced by academically talented females in an acceleration program? Can adjustment problems be predicted from a battery of personality assessment instruments?

THE PROGRAM AND THE STUDENTS

The students were 44 female adolescents (ages 13 to 17 years, mean 14.9) enrolled in an early college entrance/acceleration program at a liberal arts college during a single academic year. There were 22 entering students, 14 second-year students, and 8 third-year students. Five students who entered mid-year, one who left the program after only one week, and one who declined to participate in the study were excluded from the sample.

All of the entering students were tested with the Wechsler Intelligence Scale for Children-Revised approximately one month after beginning the program. Fullscale IQ's ranged from 115 to 155 (mean 129). Selection for the program involved a variety of qualitative factors beyond intelligence test scores. Admissions personnel placed strong emphasis on students who were highly motivated to achieve and who exhibited potential for doing college-level work. In addition, students must be viewed as mature enough to cope with the demands of leaving home and living in a group environment.

Tuition for the program is expensive, although financial support for most of the students was available. Families were primarily middle to upper middle class. The majority of both mothers and fathers were college-educated.

Students live in a single residence hall during their first two to three years in the program, then they move into regular dormitories with students from the general college population. The residence hall is well-staffed with experienced counselors. Counselors provide support and guidance to students, as well as assure that they comply with program

rules. These rules cover numerous daily living issues, ranging from mandatory class attendance and a signout policy when leaving the dorm to prohibitions against smoking, the use of profanity, etc. During the year, students can participate in planned social activities, including dances and out-of-town trips.

Initially, students take a series of courses designed to accelerate their completion of high school. Students frequently complete the high school curriculum the first year. As students advance through the program, they take an increasing number of courses from the regular college offerings. Specific course selection is highly individualized and determined in consultation with academic advisors.

MEASURES USED TO PREDICT ADJUSTMENT

Two measures of family adjustment were mailed to students and parents during the summer just prior to the start of school. Two personality measures were administered to students shortly after they arrived on campus for the new academic year. These measures are listed in Table 1 and described below.

The first family measure was the Parent Adolescent Communication Scale (PACS; Barnes & Olson, 1982), a self-report questionnaire that assesses the adolescent's view of her relationship with each parent. Total scores (combining scores for Openness and Problems) for each parent were used in this study.

The second family measure was the Family Environment Scale (FES; Moos & Moos, 1981), a questionnaire completed by each family member. Individual family member scores (for mother, father, and daughter)

Table 1

PREDICTOR AND OUTCOME MEASURES

Predictor Measures

Personality Measures

Jackson Personality Inventory
- Overall Adjustment
- Interpersonal Interest
- Social Self-Confidence
- Responsibility

Adolescent Self-Perception
- Scholastic Competence
- Social Acceptance
- Physical Appearance
- Athletic Competence

Family Measures

Parent-Adolescent Communication
- Mother Communication
- Father Communication

Family Environment Scale
- Harmony
- Order
- Independence
- Achievement Orientation
- Intellectual-Cultural
- Active-Recreational
- Moral-Religious Emphasis

Outcome Measures

- Mental Health Index
- Peer Adjustment
- Behavioral Adjustment
- Student Satisfaction

were averaged to obtain an overall family score. The FES provides scores on ten scales clustered into three groups. The Relationship group consists of three scales: Cohesion (family mutual support), Expressiveness (encouragement of open self-expression), and Conflict (family anger and conflict). The Personal Growth group includes scales that measure the degree to which the family values or encourages the following: Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, and Moral-Religious Emphasis. The System Maintenance group includes two scales: Organization (emphasis on planning and structure in family activities) and Control (emphasis on family rules and authority).

Because of their conceptual similarity, three relationship scales were combined into a single family index, termed Harmony (formula for raw scores: Cohesion + Expressiveness - Conflict = Harmony). Likewise, the Organization and Control scales were averaged into a single family index termed Order.

The study used two personality measures: the Jackson Personality Inventory (JPI; Jackson, 1976) and the Self-Perception Profile for Adolescents (SPPA; Harter, 1986). Researchers selected the four second-order factors from the JPI (here termed Overall Adjustment, Interpersonal Interest, Social Self-Confidence, and Responsibility) and four of the self-concept scales from the SPPA (Scholastic Competence, Social Acceptance, Physical Appearance, and Athletic Competence).

MEASURES OF ADJUSTMENT

To measure the students' socioemotional adjustment, the study obtained perspectives from the program staff, peers, and students. All staff and students were blind to results of the predictor measures.

Mental Health Adjustment Index

First, some general mental health information was collected from the program staff. This included the following items, scored on a present/absent basis: (1) Depression--the residence hall staff perceived the student as depressed at any time during the school year (depression must have lasted at least two weeks and must have elicited some form of staff intervention, such as counseling); (2) Suicidal Behavior--the student engaged in some form of suicidal behavior (ranging from verbal threat to suicide attempt); (3) Counseling--the student was seen for (nonacademic)

counseling by the program guidance counselor; (4) Mental Health Treatment--the student was seen by a local mental health professional (such as a psychologist or psychiatrist); and (5) Stress-Related Attrition--the student dropped out of the program for reasons related to socioemotional stress.

Behavioral Adjustment Index

Second, behavioral adjustment information was obtained from the daily log maintaind by residence hall staff. This log consisted of detailed handwritten entries by staff members who reported how the students behaved (peer arguments, dormitory rule infractions, etc.), special activities or events (such as picnics, parties, or field trips), and individual student needs (illnesses, special appointments, etc.). Program staff devised the log to facilitate communication across work shifts. Staff members were unaware that entries would be coded for use in this study. No log information was available for six third-year students who lived in a different residence hall.

The log was coded by counting the number of times over the course of the academic year that each student was mentioned for some type of rule infraction or other misbehavior. Examples of misbehavior included: violating dormitory signout policies, oversleeping, not attending residence hall meetings, not cleaning up her room, lying, and disobeying adult directions. This coding specifically excluded academic-related problems (such as cutting classes) or adjustment difficulties (such as suicidal statements) that were covered in other outcome measures. Most of the recorded incidents were relatively minor forms of misbehavior--common for many adolescents--although they were deemed noteworthy by

the staff. Researchers assumed that higher frequencies of misbehavior indicated adjustment difficulties.

Peer Adjustment Index

The third adjustment measure was a peer sociogram in which students were surveyed about their relationship with their peers. As reviewed by Asher and Hymel (1981), peer status can be reliably and validly assessed with a roster and rating technique or a peer nomination procedure. Both were used in this study.

Each student rated each peer on three questions. The first question inquired, "If you were asked to choose a person to work with on an academic project, how would you feel about choosing each person from this list?" Students rated each peer on a 5-point Likert-type scale ranging from "never" choosing this person to being "enthusiastic" about choosing this person. The second question asked about choosing someone to organize an activity such as a trip or party, and the third question asked about choosing someone to talk with about a personal problem or concern. In addition to ratings, students were asked to nominate the three students they would be most likely to choose by circling their names on the roster. Mean scores were tabulated for the ratings and nominations each student received from all peers completing the survey. Scores were combined into a total peer adjustment index.

Students were surveyed by mail after they had returned home for the summer. Unfortunately, a dozen names were omitted from the survey instrument. Several students declined to participate in the survey because they thought that the omission of names was intentional; therefore, the usefulness of the peer information is limited by the

absence of a significant number of students, and others who left the program because of stress-related problems were not surveyed.

STATISTICAL ANALYSES

Adequate internal consistency (Cronbach's alphas from .78 to .82) was found for the mental health, peer adjustment, and student satisfaction indices. (The behavioral adjustment index was not expected to be internally consistent because of its heterogeneous nature.)

Correlations were generated between the personality or family measures and each of the four adjustment measures. Sample sizes for specific analyses varied according to the number of subjects providing data for each measure. Fifteen of 68 correlations (22%) were statistically significant at the $p < .05$ level. This is well above the three or four correlations that might be found significant due to Type I error.

Separate regression analyses were employed with each personality or family adjustment instrument to examine its cumulative predictive value (as assessed by multiple r's) for each outcome measure. These regressions analyses were conducted in a stepwise mode in order to (1) identify the most important predictive scale for each instrument, and (2) examine the unique additive contribution of any other scales. Eleven of the 16 multiple regression analyses were significant, with multiple R's ranging from .327 and .630. Details of the statistical analyses are reported elsewhere (Cornell, Callahan, & Loyd, 1988).

STUDY FINDINGS

Contrary to previous research (Brody & Benbow, 1987; Janos et al., 1988; Pollins, 1983; Robinson & Janos, 1986), this study did find evidence of socioemotional adjustment problems among students enrolled in an early college entrance/acceleration program.

For example, over half of the 44 adolescents were reported by staff as suffering from a period of depression at some time during the school year. This excluded students who were viewed as suffering from brief bouts of homesickness. Only students whose behavior elicited some form of staff intervention were counted as depressed.

Staff intervention ranged from individual counseling with the student to formal referral for psychiatric treatment. Half (22) of the girls were seen for counseling by the program's guidance counselor, and 11 girls (an overlapping group) were referred to outside mental health professionals in the local community. As one indication of the severity of problems experienced by some of the girls, it can be noted that five students engaged in self-injurious behavior that was not life-threatening (e.g., taking a nonlethal amount of pills or cutting oneself superficially) and two more made suicidal threats. Because of the need for confidentiality, more information cannot be reported.

Nearly half (21 of 44, 48%) of the students either left the program during the year or decided not to return the following year. The program directors were surveyed about the factors associated with each student's departure from the program. Thirteen students (30%) left the program for reasons judged by the program directors to be at least in part related to emotional stress experienced while in the program. Other factors

accounting for the attrition rate included financial problems (11 students), a decision to attend an alternative college for academic reasons (11 students), distance from home (7 students), poor grades (5 students), and discipline problems (2 students). Most of the students left for multiple reasons.

This relatively high attrition rate suggests the inappropriateness of acceleration for some students. Unfortunately, there is little available information about similar attrition from other acceleration programs. One noteworthy exception is a report that 22 of 25 students who entered Johns Hopkins in 1980 at least two years beyond the typical age-in-grade subsequently graduated (Stanley, 1985).

PERSONALITY AND FAMILY CHARACTERISTICS ASSOCIATED WITH HEALTH ADJUSTMENT

This study identified a series of personality and family variables that were correlated with socioemotional adjustment. Each adjustment outcome measure will be discussed separately.

Mental Health Index

The overall mental health index was best predicted by measures of family adjustment. The students who adjusted best to acceleration came from families that valued personal independence and an active-recreational orientation. Curiously, these are families that both endorsed the idea that individuals should be encouraged to be self-reliant and reported that they engaged in many recreational activities together.

Overall, mental health was also positively associated with favorable mother-adolescent communication. Daughters who reported good

rapport with their mothers and a minimum of negative interaction were less likely to experience depression or related mental health problems that triggered staff intervention.

Behavioral Adjustment

All four instruments were predictive of behavioral adjustment. Based on the JPI, the students least likely to violate program rules and procedures tended to have personality characteristics that reflect a strong sense of personal responsibility and concern with moral and ethical obligations (Responsibility factor). Curiously, students with high scores on Social Self-Confidence were more likely to break rules. It is our impression that this personality factor may tap characterstics associated with being assertive and independent in a way that led students to challenge rules they felt were too restrictive.

The SPPA self-concept measure indicated that students with fewer behavior problems had more positive conceptions not only of their scholastic competence, but also of their physical appearance. It would be of interest to examine whether the expected and developmentally appropriate concern that young adolescents have with their physical appearance is heightened for these students by their move to a social and academic environment where they have more frequent contact with older female students. Part of the understandable strain of adjustment to a college environment may be lessened when these young women feel both intellectually and physically competent.

This raises the interesting question of whether the physical appearance self-concept is correlated with physical maturing or the appearance of being older. One hypothesis is that physically mature

accelerants feel better able to fit in with the general college population. Anecdotally, program staff have commented that older accelerants find it easier to blend in with the general college population because they look older.

Two family scales also were predictive of behavioral adjustment. Better mother-daughter communication and family harmony were associated with fewer behavior problems. Students whose families were more cohesive and mutually supportive, encouraged free expression of feelings, and experienced a minimum of argument and conflict were less likly to violate program rules.

Peer Adjustment

Not surprisingly, the students who got along best with their peers were the ones with the highest social self-confidence (JPI Social Self-Confidence) and most positive social self-concepts (SPPA Social Acceptance). Based on FES results, the better adjusted students came from families that valued having established rules and structures, but not families that had a strong moral-religious emphasis.

As with the mental health findings, students from families with an active-recreational orientation experienced better adjustment. One possible explanation for the findings with the FES Active-Recreational Orientation scale is that the program offered a variety of recreational activities and planned trips. Perhaps those students with a consonant family orientation benefited most from these activities or were able to assume positive leadership roles when they took place.

Finally, student satisfaction with the program was predicted best by two instruments: the Jackson Personality Inventory and the Family

Environment Scale. On the JPI, the students most satisfied with the program tended to have higher Interpersonal Interest, a measure of interest in interpersonal relationships and concern for others, but curiously again, lower Social Self-Confidence.

Perhaps less surprising was the finding that FES Order was positively associated with program satisfaction. Students who were more accustomed to family life with established rules and structure were comfortable with the program that required student adherence to rules.

Overall, the study supports the conclusion that students who adjust best to the acceleration program enjoy positive relationship with their mothers and experience a relatively harmonious, structured family environment. Active recreational activities and personal independence are valued, but moral-religious emphasis is not strong.

It may be that the family characteristics of the well-adjusted students were reflected directly or indirectly in program activities and values. Certainly, the program encouraged active participation in social and recreational activities and also required the girls to follow specific rules and policies. Moreover, even good mother-daughter communication paralleled program life, since the girls relied on their (female) counselors for support and guidance.

To adjust to a residential acceleration program, students need to have positive self-concepts about their academic ability, their social acceptability, and their physical appearance. The tendency of Social Self-Confidence to correlate favorably with peer status but not with program satisfaction or behavioral adjustment is intriguing and deserves further study.

STUDY LIMITATIONS AND DIRECTIONS FOR FUTURE WORK

While this study raises some provocative issues, caution in interpretation and generalization is needed. The longitudinal nature of the study suggests that personality and family characteristics are consistently associated with future program adjustment, but the correlation coefficients are generally of modest magnitude and allow for wide individual variation. The multiple regression analyses do result in some substantial multiple correlation coefficients (range .327 to .630), but stepwise procedures require confirmation in independent samples. Clearly, this study must be replicated in other acceleration programs, too.

Because of the limited sample size, the study did not examine differential effects for entering students versus more senior students. It seems reasonable to hypothesize that the kinds of problems and adjustment difficulties experienced in the first year of the program are different from those faced by more senior students. Anecdotally, younger students expressed complaints and concerns that were different from those of older students. Younger students reported homesickness, difficulty in making new friends, and trouble adjusting to a heavier academic workload. Most new students found they needed better study skills and more self-discipline to cope with the less structured nature of course requirements. These problems are not unlike the problems faced by regular college freshmen. Although this observation might suggest that adjustment is influenced by the student's academic aptitude or general intellectual ability, some of the most able students, as well as some of the least

able (at least as measured by IQ), experienced serious adjustment problems that led them to drop out of the program.

Older students reported social concerns. Issues of dating and sexuality were more prominent among 15, 16, and 17 year olds. Whereas the younger students expressed interest in these subjects, much of their actual social activity was limited to their immediate peer group of fellow program students and dorm mates. The social life of older students had expanded to include involvement with students in the college and general community.

The academic concerns raised by older students focused on problems about studying, instead of the need for more advanced or specialized courses. For example, an older student interested in the physical sciences transferred to a university with specialized training and more extensive science facilities.

Difficulties abound in conducting longitudinal research: planning, coordinating, and collecting extensive data; subject attrition; and subject noncompliance with data collection. If students who drop out of the study are the ones who are experiencing the most difficulties, data correlations are attenuated, and they underestimate the true relationship between predictor variables and outcome. Incomplete data on all instruments also limit the ability to compare findings across measures and thereby either eliminate redundancy or demonstrate additive effects. Based on this experience, it is not surprising that little effort has been expended to undertake similar studies of other acceleration programs.

Study findings could be misinterpreted to mean that acceleration in general, or this specific program, has a deleterious effect on

socioemotional adjustment. This study does not address these questions. This study only provides evidence for two conclusions. First, girls differ from each other in how well they function while in a specific acceleration program. Second, certain personality and family variables may be useful in predicting adjustment outcome.

Most important, neither the incidence of depression nor the problems reported demonstrates that acceleration caused adjustment difficulties for these girls. Comparable adjustment data for girls who did not attend an accelerated program do not exist. Some degree of mental health problems can be expected in any sample of students, irrespective of their educational program. Problems may develop because of stresses in the girls' families or personal lives that are unrelated to their educational program. To learn more about the causal relationship between acceleration and adjustment problems, future acceleration studies need to collect similar adjustment data from accelerated students and non-accelerated students.

Future studies also need to compare accelerants in different programs. Students in residential programs may experience more stress than do students who commute to college classes. Furthermore, gender differences in student adjustment to accelerated programs need to be examined.

Possibly the adjustment problems experienced by students preceded their enrollment in the program. While most families would permit their daughters to enroll in a residential program to meet the girls' academic needs, other families might send their daughters away

in response to personal problems or family difficulties. The fact that family characteristics, and particularly the quality of mother-daughter communication, are predictive of program adjustment lends some indirect support to this view.

CONCLUSION

Students' socioemotional adjustment in a residential, early college entrance program can be predicted from prior measures of personality and family characteristics. Further study is needed to examine the changes in the students' adjustment over time and to isolate the factors associated with adjustment problems. Results indicate a strong need to study individual differences in how students fare in academic acceleration programs.

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